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CHAPTER 7

DISCUSSION AND CONCLUSIONS

7.1 INTRODUCTION

The aim of this thesis was to contribute to a better understanding of how social networks shape the performance of new ventures in an emerging industry. An examination of previous research showed that most prior work has employed resource-based theory by studying how a venture's internal resource base impacts its performance. Only recently have scholars acknowledged that the sources of competitive advantage may also lie outside firm boundaries, thus emphasizing the need to examine how interorganizational networks influence the performance of entrepreneurial ventures. A review of prior work in this small, but rapidly growing stream of research revealed important theoretical and methodological limitations that deserved further research attention. Specifically, I grouped these knowledge gaps into three distinct, yet interrelated research themes (see Figure 1.1) that have been subsequently examined in the empirical chapters of the present dissertation. The goal of this concluding chapter is to show how the results of the empirical studies, both individually and collectively, contribute to a better understanding of the role of social networks in shaping new venture performance outcomes. To achieve this objective, I first discuss the key findings for each of the three research themes. I then synthesize the results of the empirical chapters by identifying their theoretical and practical implications. Finally, I expose the main limitations of the thesis and identify promising opportunities for future research.

7.2 MAIN RESEARCH FINDINGS

In this section I organize and discuss the key findings of the empirical chapters and expose how they relate to each of the three research themes that have been examined in this thesis. Table 7.1 provides a summary of the main research findings.

Theme I: Network Antecedents

The first research theme addressed the question of how new ventures may acquire structurally advantageous positions in the informal networks within an emerging industry. An analysis of extant literature on social networks and entrepreneurship revealed that prior research has mainly focused on the consequences of networks for organizational performance (Borgatti & Foster, 2003; Brass et al., 2004). Our understanding of the determinants of social networks and

TABLE 7.1
Summary of the Main Findings Organized by Research Theme

| | Research Theme | | |
|-------------------|---|--|--|
| | Network Antecedents | Network Configurations | Firm-Level Contingencies |
| Research Question | <i>How can new ventures obtain structurally advantageous positions in the informal networks of an emerging industry?</i> | <i>How do configurations of different network dimensions and types of ties influence the performance of new ventures in an emerging industry?</i> | <i>How does the nature of a new venture's strategy and resources influence the relationship between particular network configurations and performance?</i> |
| Key Findings | <ul style="list-style-type: none"> - Frequency of entrepreneurs' participation in industry events is curvilinearly related to their prominence in the industry - Betweenness centrality of entrepreneurs in the actor-by-event affiliation network is positively related to their level of brokerage in the industry - The event participation—performance link is mediated by entrepreneurs' network position in informal industry networks | <ul style="list-style-type: none"> - Intraindustry network centrality and extraindustry bridging ties have complementary effects on new venture performance - Cohesion and strong ties strengthen the link between knowledge heterogeneity and firm innovativeness; interpersonal background similarity weakens this link - Brokerage between commercial firms and community institutions is positively related to new venture performance; brokerage among community institutions has no effect on performance - Technical and social participation in the open source software community have complementary effects on firms' financial and innovative performance | <ul style="list-style-type: none"> - Positive interaction effect between entrepreneurial orientation and bridging ties on new venture performance; Balance between intra- and extraindustry social capital is more important for ventures with a strong entrepreneurial orientation - Institutional ties have a stronger impact on new venture performance when entrepreneurs have limited prior career experience - Firm size (internal R&D) strengthens the relationship between firms' technical participation in open innovation communities and their financial (innovative) performance |

the extent to which entrepreneurs can intentionally manage the creation of new ties thus appeared very limited.

In an effort to address this knowledge gap, Chapter 2 of this thesis has empirically examined how entrepreneurs' networking activities at industry events (e.g., conferences, seminars) influence the nature of their structural positions in informal industry networks. Although previous research has suggested that "networking" contributes to the development of social capital for emerging entrepreneurial firms (Elfring & Hulsink, 2007), no prior studies have empirically studied if and how event participation by entrepreneurs actually influences the architecture of their social networks.

A key finding in Chapter 2 has been that the number of events in which entrepreneurs had participated was curvilinearly related to their prominence in the informal networks of the emerging industry. The results also showed that entrepreneurs, who had demonstrated a more unique pattern of event participation and thus served as a unique linking-pin between different events, were more likely to subsequently bridge structural holes in the social network structure of the emerging industry. Taken together, these findings contribute to a better understanding of how new ventures may establish favorable network positions by highlighting both the opportunities and constraints of event participation for entrepreneurs in a nascent industry. Although industry events appear to function as "social foci" (Feld, 1981) that facilitate the development of social capital among entrepreneurs, the results also expose the "dark side" of networking (Gargiulo & Benassi, 2000) by uncovering the presence of important diminishing returns to event participation.

Theme II: Network Configurations

The research question underlying theme two involved the question of how configurations of different network dimensions and types of ties influence the performance of new ventures in an emerging industry. A review of the network literature showed that scholars have explicated various trade-offs between alternative network designs including sparse vs. cohesive network structures (Burt, 1992; Coleman, 1988), strong vs. weak ties (Granovetter, 1973; Uzzi, 1997), and heterogeneous vs. homogenous network compositions (Baum et al., 2000; Sampson, 2007). Although this line of work has produced valuable insights into the relative advantages and disadvantages of particular network dimensions or relationships, it appeared that still little is known about how multiple network dimensions or types of ties combine in influencing firm performance (Zaheer & Bell, 2005).

To address this gap in the literature, Chapters 3 to 6 of this dissertation have adopted an integrative approach to the study of network effects by examining how the structural, relational, and compositional facets of a new venture's network embeddedness interactively shape its performance. Moreover, these

chapters also built on the observation that previous research has been limited to the study of a firm's embeddedness in a single type of network (Gulati et al., 2002) by analyzing how a new venture's simultaneous embeddedness in multiple networks influences its performance.

A key result of Chapters 4 and 5 has been that alignment among a new venture's network structure, tie modality, and network composition improved its performance outcomes. Specifically, the findings in Chapter 4 demonstrated that managerial ties to firms with heterogeneous knowledge resources have a stronger impact on firm innovativeness when these ties also embody particular types of social capital. Whereas cohesive relations and strong ties among a focal firm's executives and their network contacts strengthened the relationship between knowledge heterogeneity and firm innovativeness, interpersonal background similarity among boundary spanners weakened the heterogeneity-innovativeness link. Similar results regarding the interactions among firms' network structure and network composition were reported in Chapter 5. Findings of this chapter revealed that new ventures that bridged structural holes between firms in their task environment and organizations in their institutional environment attained higher performance, while brokerage between different government and professional associations did not enhance venture performance.

Another key finding of Chapters 3 to 6 has been that the value of a new venture's embeddedness in one type of network was greatly dependent on the degree to which it also maintained ties to other networks. To be more specific, the results in Chapter 3 showed that the intra- and extraindustry network linkages of entrepreneurs had complementary effects on the performance of their ventures. That is, intraindustry network centrality in combination with few extraindustry bridging ties was negatively related to performance, whereas a positive effect was found when entrepreneurs had many extraindustry ties. A similar pattern of results emerged in Chapter 5, which expanded the unit of analysis to the multiplex networks among a wide variety of organizations that were active in the Dutch open source software community. This study revealed that the degree to which new ventures were simultaneously embedded in the networks of their task environment and institutional environment was positively related to their subsequent performance. Finally, Chapter 6 produced comparable insights by investigating how the configuration of electronic relationships to open source projects and "offline" linkages to the local open source community influenced the financial and innovative performance of new ventures in the Dutch open source industry. This study exposed that the interaction of both types of ties was positively related to performance.

Taken together, these findings contribute to a better understanding of how configurations of different network relationships influence firm performance by highlighting the risks of considering only a single network when analyzing network effects and the importance of considering the performance impact of the

overall configuration of multiple types of ties in a focal firm's network (cf. Gulati et al., 2002).

Theme III: Firm-Level Contingencies

The third research theme underlying this thesis involved an analysis of the question of how firm-level characteristics influence the performance effects of particular network configurations. This theme emerged from the observation that only recently have scholars begun to explore the theoretical notion that network effects on firm performance may systematically vary with the characteristics of the focal firm such as its strategic orientation and internal resource base (Acquaah, 2007; Gulati et al., 2002). Variation in these characteristics may reflect heterogeneity in firms' resource needs and absorptive capacity so that 'not all ties are equally beneficial for all firms' (Peng & Luo, 2000: 488). In an effort to extend this emerging line of research on the contingent value of social capital (Burt, 1997), Chapters 3, 5 and 6 of the present dissertation have investigated how the nature of a new venture's strategic orientation and internal resource base influences the benefits the firm derives from particular network configurations.

A central result of Chapter 3 has been that the ability of new ventures to derive performance benefits from a central network position in their industry and many extraindustry bridging ties was contingent upon these firms' entrepreneurial orientations (EO). Although no significant results were found for new ventures with a weak EO, the findings for firms with a strong EO demonstrated that the combination of high network centrality and many bridging ties was positively related to new venture performance. On the other hand, the configuration of high network centrality with few bridging ties was negatively related to the performance of highly entrepreneurial ventures. These results are interesting, because they suggest that achieving a fit among the firm's strategic posture and social capital is more important for firms with a strong EO. That is, the larger variation in performance outcomes associated with pursuing entrepreneurial strategies (cf. Ireland et al., 2003) may be explained by firms' differential access to social capital resources.

Another key finding which resulted from Chapter 5 has been that entrepreneurs' prior career experience weakens the positive impact of institutional ties on new venture performance. In contrast to the results of chapters 3 and 6, which revealed complementary effects of firms' internal resources and external networks on performance, this finding indicates that the legitimacy benefits that entrepreneurial ventures derive from ties to the institutional environment can substitute for a lack of legitimacy of their founders. This is an important result, because it demonstrates that the value of institutional ties is not only contingent on organizational and environmental factors (Baum & Oliver, 1991; Oliver, 1997), but also on individual-level characteristics of the entrepreneur. Moreover, the findings qualify previous arguments stating that entrepreneurs require significant

prior experience in order to be successful (Burton et al., 2002) by demonstrating that institutional ties may overcome the initial legitimacy challenges faced by inexperienced founders.

Finally, a key result of Chapter 6 has been that the degree to which new ventures in the Dutch open source software industry obtained higher performance from their participation in open source projects was contingent on their internal resource base. Specifically, the results demonstrated that technical community participation was more strongly related to firms' financial performance when organizational size was large. Furthermore, I found that the relationship between technical community participation and innovative performance was stronger for firms with higher R&D intensities. Overall, these results confirm the theoretical notion that participation in open source communities constitutes a valuable source of external resources that contribute to higher firm performance (Dahlander & Magnusson, 2005), but also demonstrate that firm-level characteristics influence the relative costs and benefits that firms experience from their involvement in open source projects. Similar to the argument in Chapter 3 that an entrepreneurial orientation represents enables a firm to create more wealth from access to external resources, the results of Chapter 6 show that new ventures require sufficient resources and absorptive capacity in order to take advantage of the resources residing in open source communities.

7.3 THEORETICAL IMPLICATIONS

In the previous section I have discussed the main findings of the empirical chapters and have shown how they relate to each of the three research themes that have been examined in the present thesis. Following this theme-oriented analysis, I now explore some broader theoretical implications of the empirical studies. These issues are not confined to a single research theme, but rather involve implications for theory that arise from an examination of the overall pattern of research findings.

Dark Side of Social Capital

Although prior research has mainly stressed the positive role of social networks in the entrepreneurial process (Maurer & Ebers, 2006), the results of this thesis indicated that networks can also have important negative consequences for the performance of entrepreneurial ventures. This "dark side" of social capital (Gargiulo & Benassi, 1999) emerged in the present dissertation in two distinct forms: (1) nonlinear and (2) interactive network effects on performance. First, both the independent network variables in Chapter 2 (event participation) and Chapter 6 (community participation) revealed curvilinear, inverted U-shaped relationships with new venture performance outcomes. This evidence suggests that building and maintaining network ties involves an opportunity cost that may eventually

outweigh their benefits (McFadyen & Cannella, 2004). Recognizing these diminishing marginal returns to networking and social capital is important, because studying nonlinear relationships may contribute to reconciling the mixed empirical results of previous research (Hoang & Antoncic, 2003).

Second, both the findings in Chapters 3 and 4 showed that social capital may turn into a liability when new ventures maintain incongruent network configurations. Chapter 3 demonstrated that network centrality negatively impacts performance when entrepreneurs maintain few bridging ties, while Chapter 4 showed that high levels of interpersonal similarity among a new venture's executives and their network contacts at other firms constrains the firm's ability to generate radical innovations.

These results indicate that more complex theoretical models are necessary to more fully understand the nonlinear and interactive influences of the structural, relational, and compositional dimensions of a firm's network and when they may produce negative economic outcomes (cf. Hagedoorn, 2006; Oh et al., 2004).

Cross-Level Effects

So far, the literature on interfirm networks has primarily focused on the role of network ties at a single level of analysis—the firm—in explaining differential firm behavior and performance (Brass et al., 2004; Zaheer & Bell, 2005). Yet the results of this thesis demonstrated that the boundary spanning ties between executives across firms have a significant impact on organizational innovation and performance. This finding supports recent theoretical contentions that the external ties of individuals constitute a strategic resource for the firm, one that is unique to each firm, largely invisible to competitors, and difficult for them to imitate (Galaskiewicz & Zaheer, 1999).

In addition to these main effects of individual ties on firm-level outcomes, several chapters in the present dissertation also revealed interactive effects between individual- and firm-level constructs. Chapter 3, for example, showed that the nature of executives' social capital resources influenced the degree to which their firm's entrepreneurial orientation resulted in higher performance. Similarly, Chapter 4 exposed that the presence of certain types of social capital among a focal firm and its network partners increased the firm's ability to overcome absorptive capacity problems and translate access to diverse knowledge into novel innovations. Finally, Chapter 5 showed that entrepreneurs' prior career experience affected the value of their firms' institutional ties. Taken together, these results highlight the value of studying the cross-level effects of social networks and other constructs at and across multiple levels of analysis (cf. Gupta, Tesluk, & Taylor, 2007).

Social Networks and Individual-Collective Dilemmas

An issue broached, but not directly addressed by the current study involves the important tension between the interests of individual entrepreneurial firms and the collective interests of the communities to which they belong. At the community level, network relations generate public goods of trust, solidarity, and knowledge-sharing that benefit the entire collective (Portes, 1998). At the individual level, structurally advantageous network positions provide firms with valuable access, timing, and control benefits that enhance their performance (Burt, 1992). Yet as noted by Ibarra et al. (2005), individual network strategies may coalesce or detract from the emergence of public goods and collective learning.

In Chapter 5, for example, concerted action among innovative entrepreneurs was described as a vehicle for community-level learning and legitimation. However, the empirical findings showed that certain types of brokerage strategies, although probably beneficial for the integration of the entire community, did not increase the performance of the brokering firm. Similarly, Chapter 6 noted that the success of open source software communities depends heavily on the resource contributions by individual firms. Yet the results revealed that community participation was curvilinearly related to firm performance, thus raising the question of whether initial performance benefits to the firm represent a loss to the community. Likewise, negative returns to high levels of participation may reflect positive returns to the community. Future research could make a valuable contribution by assessing how the network strategies of entrepreneurs affect, and are affected by, the communities of which they are part. This line of work should also study the conditions under which individual and collective interests converge or diverge and the interplay between individual and collective social capital. For instance, multi-industry studies may examine how variation in the overall industry network structure influences the network strategies of firms and how heterogeneity in firms' networking behaviors affects the evolution of entire industry networks.

7.4 CONTRIBUTIONS TO THE LITERATURE

This dissertation makes several contributions to the literature on social networks, strategic entrepreneurship, and open source software. First, recent studies have underscored the strategic value of structurally advantageous network positions for the performance of entrepreneurial firms, but our understanding of how entrepreneurs may actually obtain these positions remains limited (Maurer & Ebers, 2006). Although previous research in the entrepreneurship field has speculated on the importance of "networking" for social capital development (Elfring & Hulsink, 2007), this line of work has not empirically examined the relationship between entrepreneurs' participation in industry events and the architecture of their social networks. By empirically demonstrating how the

frequency and pattern of entrepreneurs' event participation is related to their network positions in informal industry networks, the current study contributes to emerging literatures on the origins of social networks (Gulati & Gargiulo, 1999) and the role of "field-configuring events" in the emergence of new markets, technologies, and industries (Lampel et al., 2005).

Second, this study investigates how alternative network configurations influence new venture performance outcomes. Although previous research on the relationship between social networks and performance has examined the role of network structure, tie modality, and network composition in shaping firm behavior and performance (Gulati et al., 2002), few studies have analyzed the joint effects of these network dimensions on organizational outcomes (Shipilov, 2006). Moreover, previous empirical studies have mainly concentrated on organizational embeddedness in a single network, thereby ignoring the possibility that firms are embedded in multiple types of relationships (Zaheer & Bell, 2005). By taking a configurational approach that examines the interactions among multiple network dimensions and types of ties, this study contributes to a better understanding of how important trade-offs in the network strategies of new ventures can be reconciled.

Third, empirical research has only recently begun to explore the contingencies under which social capital becomes an asset or liability for emerging entrepreneurial firms (Hite & Hesterly, 2001; Maurer & Ebers, 2006). This line of work has produced valuable insights into the factors that shape the value of particular network configurations including a firm's industry context (Rowley et al., 2000), life cycle stage (Hite & Hesterly, 2001), and market position (Shipilov, 2006). Yet we still know little about how a firm's strategy and internal resources interact with its access to external network resources (Acquaah, 2007). By empirically examining the moderating role of firm strategy and resources in the social capital-performance relationship, this dissertation builds on and contributes to recent efforts at synthesizing resource-based and social network theories (Dyer & Singh, 1998; Lavie, 2006).

Fourth, previous research on entrepreneurship and social networks has relied on egocentric network data that only capture the direct social ties among a focal entrepreneur and his/her network contacts (Burt, 2005). Although this work has provided valuable insights into the role of entrepreneurs' core discussion networks in the entrepreneurial process, we only know very little about how the indirect ties and network positions of entrepreneurs in the overall network structure of their industry influences new venture performance outcomes (Stuart & Sorensen, 2005). Moreover, empirical research has mainly collected network data from a single entrepreneur, thereby ignoring the fact that most new ventures are founded by entrepreneurial teams (Nicolaou & Birley, 2003). This study overcomes these limitations by collecting complete network data on informal ties between the entrepreneurial teams of each pair of firms in an emerging industry.

Fifth, empirical studies have mainly focused on entrepreneurship in established markets. Although research on the determinants of new venture performance has produced valuable insights, our understanding of the factors influencing the new venture success in nascent industries remains incomplete (Aldrich, 1999; Low & Abrahamson, 1997). These firms increase organizational diversity and rejuvenate declining industrial sectors, but face significant knowledge and legitimacy barriers (Aldrich & Martinez, 2001). By studying the conditions under which social networks increase the performance of new ventures commercializing a new technology, this dissertation contributes to knowledge about effective networking strategies in emerging industries (Aldrich & Fiol, 1994).

Sixth, this study contributes to the small, but rapidly growing literature on open source software (Von Hippel & Von Krogh, 2003; Von Krogh & Von Hippel, 2006) and open innovation (Chesbrough, 2003) by empirically examining how and when the participation of firms in open source communities influences their performance. Prior research in this area has mainly concentrated on the motivations of individuals to become involved in open source projects at the expense of considering the participation of commercial actors in open innovation communities (Dahlander, 2007). By demonstrating that community participation yields diminishing decreasing returns to firm performance and that firm-level characteristics moderate this relationship, this study refines our understanding of the boundary conditions under which participation in open innovation communities is beneficial to the performance of firms pursuing open business models.

7.5 PRACTICAL IMPLICATIONS

In addition to implications for theory, this research also offers several important practical implications. A key issue for entrepreneurial ventures and their leaders concerns the extent to which the potential benefits of establishing and maintaining external network ties outweigh the significant costs that are associated with these boundary spanning activities. The results of this study show that entrepreneurs can optimize the value of their networks in a number of ways.

First, entrepreneurs are encouraged to develop new social ties with peers in their industry by participating in conferences, seminars, and other networking events. Yet entrepreneurs need to recognize that attending industry events yields diminishing marginal returns, so that moderate levels of participation are preferred to very low or very high levels. My findings also suggest that it is particularly beneficial for entrepreneurs to participate in events that attract different sets of participants rather than to co-attend multiple events with the same individuals. In so doing, entrepreneurs serve as a critical linking pin between different industry participants and thus increase the number of structural holes in their social networks.

Second, entrepreneurs can enhance the performance of their firms by achieving a balance between building and maintaining different types of network ties. Specifically, entrepreneurs are encouraged to establish a central position in the informal network structure of their industry, but must recognize that sufficient bridging ties to other industries are necessary in order to prevent overembeddedness. The results also show that innovative entrepreneurs benefit from simultaneously participating in various collective action networks in the emerging industry, but highlight the importance of recognizing the differential value of alternative brokerage strategies. Although bridging structural holes between commercial firms and community institutions contributes to higher firm performance, entrepreneurs should be aware that brokering relations among community institutions has little effect on the performance of their ventures.

Third, it is important that entrepreneurs consider the extent to which their external network contacts are affiliated with firms that possess heterogeneous knowledge resources. Such firm-level heterogeneity in social networks offers potential access to creative resources that facilitate firm innovation. However, entrepreneurs also need to recognize that in order to mobilize and assimilate the knowledge held by other firms it is necessary to develop strong and cohesive social ties to managers at those firms. Another implication of this study is that it is insufficient for entrepreneurs to only consider firm-level heterogeneity when building boundary spanning ties. Although ties to managers at other firms with novel knowledge resources certainly can facilitate firm innovation, entrepreneurs must be aware that the realization of these potential benefits can be constrained when their network contacts have very similar personal backgrounds and prior experiences.

Fourth, the results of this study revealed that network resources do not always substitute for a new venture's internal resources and capabilities. Although social networks may provide firms with potential access to valuable resources that reside outside firm boundaries, entrepreneurs must recognize that in order to fully exploit those resources, their firms simultaneously need to develop appropriate internal resources and capabilities. Specifically, entrepreneurs should increase the entrepreneurial orientations of their ventures by stimulating initiatives that are characterized by high levels of innovativeness, risk taking, and proactiveness. Additionally, they need to invest resources in the growth of their firms' human resources and technological capabilities. Thus, firms' external networks complement their internal resource base and should therefore be managed concurrently.

7.6 LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Although the findings of this study are informative, they should be viewed against several limitations that point to interesting avenues for future research. First, the cross-sectional network data that were used in the current study fail to

capture the dynamic interplay between social capital and performance. Specifically, this dissertation has assumed that social networks influence new venture performance, yet causality may also run into the opposite direction. Successful firms with strategic resources may be perceived as more attractive exchange partners and thus acquire more favorable network positions in their industry (Powell et al., 1996). Longitudinal studies tracking the interactions among firms' network configurations, internal capabilities, and performance over time are necessary to shed more light on the causal relationships among these constructs. This line of work may take advantage of recent methodological advances in the network literature, including recent specifications of novel exponential random graph (p^*) models (Robins et al., 2007), to study the co-evolution of firm-specific characteristics and social networks of entrepreneurial ventures.

Second, by assuming that firms' networks are exogenous, the network effects reported in this study may potentially reflect unobserved heterogeneity. As noted by Stuart and Sorenson (2008), differences between actors in terms of their strategic preferences for certain network positions and their ability to acquire and benefit from these positions may confound individual-level effects with network-level effects. In order to more fully understand true network effects, future research should therefore simultaneously study differences among firms' strategic preferences for, and ability to develop, particular network configurations, and the consequences of these differences for firms' performance.

Third, this study has only examined a single, emerging high-tech industry. Although a within-industry approach allows researchers to identify the resources that are critical to the industry in question (Hoskisson et al., 1999) and to collect 'more fine-grained network data including data on indirect ties' (Hoang & Antoncic, 2003: 177), some unique features of the open source software industry may restrict the generalizability of the results. The global and innovative nature of this industry, the importance of online developer communities therein, and the presence of many small and young firms are factors that may have impacted my findings. To increase our understanding of how particular industry conditions influence the role of social networks in the entrepreneurial process, future research may replicate and extend the current study by examining multiple industries that differ in life cycle, technological intensity, or institutional context.

Fourth, this research has only focused on the direct and interactive effects of social networks on the performance of entrepreneurial ventures. Little attention has been paid to the mediating processes that govern *how* firms' network configurations influence their performance. Previous research has mentioned various mechanisms through which networks influence the entrepreneurial process, ranging from opportunity recognition and resource acquisition to legitimation and political support (Elfring & Hulsink, 2003; Stuart & Sorenson, 2005). Although the present thesis has examined the role of social capital in relation to each of these components (i.e., entrepreneurial orientation in Chapter 3, knowledge acquisition in Chapter 4, and collective action in Chapter 5), it has not

been able to clearly distinguish between network effects on each type of entrepreneurial process. Future research could make a valuable contribution by isolating the precise mechanisms through which social networks influence particular entrepreneurial processes.

7.7 CONCLUSION

This study began by noting that the relative scarcity of innovative, fast growing entrepreneurial ventures combined with their economic significance has stimulated a burgeoning stream of research exploring the determinants of new venture performance outcomes. Although most of this work has focused on the role of entrepreneur and firm characteristics, more recent research has argued that in order to more fully understand the sources of superior performance, the unit of analysis must be expanded beyond the firm-level to include the social capital resources that are embedded in a firm's network of external relationships. The current study contributes to this literature by examining how and when particular network strategies enhance the performance of entrepreneurial ventures that operate in an emerging industry. By developing new theoretical arguments and empirically testing these hypotheses on an original dataset of the entire network structure of informal ties among new ventures in the Dutch open source software industry, this study demonstrates that networking is certainly no panacea for increasing growth and innovation rates among entrepreneurial ventures. Networks rather constitute a double-edged sword, providing social capital to some entrepreneurs and conferring social liability to many others. Notwithstanding their general distaste for managerial tasks, entrepreneurs thus need to carefully manage their social networks in order to unlock their full wealth creation potential. The findings of study fortunately provide several theoretical and practical insights into how to make networking work.

